

1    CLAIMS

2    We claim:

- 3        1. An integrated, monopole reinforcement sleeve system, comprising:
- 4                at least one pair of complementary hemi-sleeves; and
- 5                a non-slip filler;
- 6                wherein the filler is inserted between the sleeves and the monopole; and
- 7                the sleeves are tightened around the monopole;
- 8                thereby providing integrated monopole reinforcement.
- 9        2. The system according to Claim 1, wherein the sleeves include flanges for
- 10                fastening the sleeves to the pole flanges of stepped monopoles.
- 11        3. The system according to Claim 1, wherein the sleeves are shaped to approximated
- 12                the shape of the monopole surface.
- 13        4. The system according to Claim 3, wherein the sleeves have a circular shape.
- 14        5. The system according to Claim 3, wherein the sleeves have a non-circular shape.
- 15        6. The system according to Claim 5, wherein the non-circular shape is a polygonal
- 16                shape.
- 17        7. The system according to Claim 3, wherein sleeves are located at a predetermined,
- 18                select position on the monopole for optimal reinforcement.
- 19        8. The system according to Claim 1, wherein the at least one pair of complementary
- 20                hemi-sleeves are multiple pairs of complementary hemi-sleeves.
- 21        9. The system according to Claim 1, wherein the filler is an elastic polymer.
- 22        10. The system according to Claim 1, wherein the filler is selected from the group
- 23                consisting of polymers, foams, adhesives, and combinations thereof.

11. The system according to Claim 1, wherein the filler is neoprene.
12. The system according to Claim 1, wherein the filler forms an integral sleeve-snugging material-monopole.
13. The system according to Claim 1, further including a mounting support incorporated into the sleeves for the mounting of appurtenances.
14. The system according to Claim 13, wherein the mounting support is selected from the group consisting of supports for antennas, microwave dishes, mounting platforms, mounting brackets, transmission lines, lights, reflectors, signs, flags, and combinations thereof.
15. A method for the reinforcement of monopoles with an integrated reinforcement sleeve, including the steps of:
- Calculating the stresses along the monopole length according to the applicable code;
  - identifying the locations of the monopole requiring reinforcement;
  - designing the sleeve required to reinforce the monopole consistent with these calculations, including designing the thickness of the sleeve such that the maximum utilization of the reinforced monopole does not exceeds 80%;
  - and
  - installing the sleeve on the monopole at the predetermined locations;
  - thereby providing an integrated reinforced monopole and sleeve system.